LISTING OF CLAIMS

1.   (Original)   A method for transmitting timing critical data over a network that is also carrying Internet Protocol traffic comprising:

transmitting the timing critical data directly to a media access control layer;

maintaining a timing relationship of the timing critical data throughout the media access control layer to a scheduler; and

scheduling transmission of the timing critical data and the Internet Protocol traffic in a single scheduler.

2.   (Original)   The method according to claim 1, wherein the timing critical data comprises an MPEG video data stream.

3.   (Original)   The method according to claim 1, wherein the timing critical data comprises 1394 traffic including isochronous video data.

4.   (Original)   An apparatus to receive timing critical data from a first network and to transmit the timing critical data over one or more other networks to one or more client devices comprising:

a video bridge to couple to the first network, said video bridge receiving the timing critical data, maintaining a timing relationship of the timing critical data and scheduling transmission of the timing critical data over the one or more other networks.

5.   (Original)   The apparatus according to claim 4, wherein the video bridge comprises:

a MAC receiver outputting the timing critical data; and

one or more MAC transmitters, one for each of the one of more client devices, each MAC transmitter coupled to the MAC receiver, receiving the timing critical data and converting the

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timing critical data to a format suitable for transmission over one of the one or more other networks.

6. (Original) The apparatus according to claim 5, wherein the video bridge further comprises:

a first physical layer interface to couple to the first network and coupled to the MAC receiver; and

one or more second physical layer interfaces, each second physical layer interface coupled to one of the one or more MAC transmitters, and each second physical layer interface to couple to said one of the one or more other networks.

7. (Original) The apparatus according to claim 5, wherein each of the one or more MAC transmitters comprises:

a timing circuit to adjust timing resulting from any filtering and to add additional timing information to adjust for latency and jitter introduced by said one of the one or more other networks;

a packetizer coupled to the timing circuit to create packets or frames that meet requirements of said one of the one or more other networks; and

a scheduler coupled to the packetizer to schedule access to said one of the one or more other networks.

8. (Original) The apparatus according to claim 7, wherein each of the one or more MAC transmitters further comprises:

a PID filter to receive the timing critical data and to filter out programs that are not required by one of the one or more client devices and outputting the filtered timing critical data to the timing circuit; and

a queue coupled to the scheduler to buffer packets or frames prior to transmission over said one of the one or more other networks.

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9. (Original) The apparatus according to claim 5, further comprising one or more additional MAC receivers, one for each of the one or more client devices, each of the one or more additional MAC receivers disposed between one of the one or more other networks and one of the one or more client devices, wherein each of the one or more additional MAC receivers comprises:

a depacketizer to convert incoming packets to a format suitable for the timing critical data;

a timing circuit coupled to the depacketizer to restore the timing critical data based on bits added by a timing circuit in the one or more MAC transmitters; and

a queue coupled to the depacketizer to buffer incoming packets from said one of the one or more other networks before passing the incoming packets to the depacketizer.

10. (Original) The apparatus according to claim 4, wherein the one or more client devices comprises at least two client devices, and the video bridge transmits an identical copy of the timing critical data to each of the at least two client devices.

11. (Original) An apparatus for transmitting a first timing critical data from a first network and a second timing critical data from a second network over one or more other networks to one or more client devices comprising:

a video bridge coupled to the first and second networks and receiving the first and second timing critical data from the first and second networks, maintaining a timing relationship of the first and second timing critical data and scheduling transmission of the timing critical data over the one or more other networks to each of the one or more client devices.

12. (Original) The apparatus according to claim 11, wherein the video bridge comprises:

a first MAC receiver outputting the first timing critical data;

a second MAC receiver outputting the second timing critical data;

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a multiplexer coupled to the first and second MAC receivers and creating a single data stream from the first and second timing critical data; and

one or more MAC transmitters coupled to the multiplexer, one for each of the one or more client devices, each of the one or more MAC transmitters receiving the single data stream including the first and second timing critical data, converting the first and second timing critical data to a format suitable for transmission over the one or more other networks, and filtering out programming not selected by said each of the one or more client devices.

13.   (Original)   The apparatus according to claim 12, wherein the video bridge further comprises:

a first physical layer interface to couple to the first network and coupled to the first MAC receiver;

a second physical layer interface to couple to the second network and coupled to the second MAC receiver; and

one or more other physical layer interfaces, each of which is coupled to one of the one or more MAC transmitters and each is which is also coupled to one of the one or more other networks.

14.   (Original)   The apparatus according to claim 12, wherein each of the one or more MAC transmitters comprises:

a timing circuit to adjust timing resulting from any filtering and to add additional timing information to adjust for latency and jitter introduced by said one of the one or more other networks;

a packetizer coupled to the timing circuit to create packets or frames that meet requirements of said one of the one or more other networks; and

a scheduler coupled to the packetizer to schedule access to said one of the one or more other networks.

15. (Original) The apparatus according to claim 14, wherein each of the one or more MAC transmitters further comprises:

a PID filter to receive the single data stream and to filter out programs that are not required by one of the one or more client devices to which said each MAC transmitter is coupled via one of the one or more other networks, and outputting the filtered single data stream to the timing circuit; and

a queue coupled to the scheduler to buffer packets or frames prior to transmission over said one of the one or more other networks.

16. (Original) The apparatus according to claim 11, further comprising one or more additional MAC receivers, one for each of the one or more client devices, each of the one or more additional MAC receivers disposed between one of the one or more other networks and one of the one or more client devices, wherein each of the one or more additional MAC receivers comprises:

a depacketizer to convert incoming packets to a format suitable for the first and second timing critical data;

a timing circuit to restore the first and second timing critical data based on bits added by one of the one or more MAC transmitters; and

a queue coupled to the depacketizer to buffer incoming packets from the one or more other networks before passing the incoming packets to the depacketizer.

17. (Original) The apparatus according to claim 11, wherein the video bridge comprises:

a first MAC receiver outputting the first timing critical data;

a second MAC receiver outputting the second timing critical data; and

one or more MAC transmitters, one for each of the one or more client devices, each of the one or more MAC transmitters receiving the first timing critical data and the second timing critical data, converting the first and second timing critical data to a format suitable for

transmission over the one or more other networks, and filtering out programming not selected by said each of the one or more client devices.

18. (Original) The apparatus according to claim 17, wherein the video bridge further comprises:

a first physical layer interface to couple to the first network and coupled to the first MAC receiver;

a second physical layer interface to couple to the second network and coupled to the second MAC receiver; and

one or more other physical layer interfaces, one for each of the one or more MAC transmitters, each of which is coupled to one of the one or more MAC transmitters and each is which is also coupled to one of the one or more other networks.

19. (Original) The apparatus according to claim 17, wherein each of the one or more MAC transmitters comprises:

a first timing circuit to adjust timing resulting from any filtering and to add additional timing information to adjust for latency and jitter introduced by said one of the one or more other networks;

a second timing circuit to adjust timing resulting from any filtering and to add additional timing information to adjust for latency and jitter introduced by said one of the one or more other networks;

a first packetizer coupled to the first timing circuit to create packets or frames that meet requirements of said one of the one or more other networks;

a second packetizer coupled to the second timing circuit to create packets or frames that meet requirements of said one of the one or more other networks; and

a scheduler coupled to each of the first and second packetizers to schedule access to said one of the one or more other networks.

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20.   (Original)   The apparatus according to claim 19, wherein each of the one or more MAC transmitters further comprises:

a first PID filter to receive the first timing critical data and to filter out programs in the first timing critical data that are not required by one of the one or more client devices to which said each of the one or more MAC transmitters is coupled via one of the one or more other networks, said first PID filter outputting the filtered first timing critical data to the first timing circuit;

a second PID filter to receive the second timing critical data and to filter out programs in the second timing critical data that are not required by one of the one or more client devices to which said each of the one or more MAC transmitters is coupled via one of the one or more other networks, said second PID filter outputting the filtered second timing critical data to the second timing circuit; and

a queue coupled to the scheduler to buffer packets or frames prior to transmission over said one of the one or more other networks.

21.   (Original)   An apparatus for transmitting timing critical data from a first network over one or more other networks to one or more client devices comprising:

a video bridge coupled to the first network and receiving the timing critical data, maintaining a timing relationship of the timing critical data, scheduling transmission of the timing critical data over the one or more other networks, and outputting a television signal; and

a television coupled to the video bridge to receive the television signal from the video bridge.

22.   (Original)   The apparatus according to claim 21, wherein the video bridge comprises:

a MAC receiver outputting the timing critical data;

a decoder coupled to the MAC receiver and the television and converting the timing critical data to a television signal; and

a MAC transmitter receiving the timing critical data and converting the timing critical data to a format suitable for transmission over the network.

23.   (Original)   An apparatus for transmitting timing critical data from a first network along with Internet Protocol packets over one or more other networks to one or more client devices comprising:

a processor outputting Internet Protocol data packets; and

a video bridge coupled to the first network and the processor, receiving the timing critical data, maintaining a timing relationship of the timing critical data and scheduling transmission of the timing critical data along with the Internet Protocol packets over the one or more other networks to the one or more client devices.

24.   (Original)   The apparatus according to claim 23, wherein the video bridge comprises:

a MAC receiver outputting the timing critical data; and

one or more MAC transmitters, one for each of the one or more client devices, each Mac transmitter receiving the timing critical data and converting the timing critical data to a format suitable for transmission over the one or more other networks and having a data port coupled to the processor to receive Internet Protocol packets.

25.   (Original)   The apparatus according to claim 24, wherein each of the one or more MAC transmitters comprises:

a PID filter to receive the timing critical data and to filter out programs that are not required by one of the one or more client devices to which said each MAC transmitter is coupled via one of the one or more other networks;

a timing circuit to adjust timing resulting from the filtering and to add additional timing information to adjust for latency and jitter introduced by said one of the one or more other networks;

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a packetizer creating packets or frames that meet requirements of said one of the one or more other networks;

a data interface coupled to the processor to receive Internet Protocol packets from the processor; and

a scheduler coupled to the packetizer and the data interface to schedule access to said one of the one or more other networks for both Internet Protocol packets from the processor and the timing critical data.

26. (Original) An apparatus for transmitting timing critical data from a first network along with Voice over Internet Protocol packets over one or more other networks to one or more client devices comprising

a media terminal adapter, having one or more telephone ports for coupling to a telephone device, and outputting Voice over Internet Protocol packets; and

a video bridge coupled to the first network and coupled to the media terminal adapter, receiving the timing critical data, receiving the voice over Internet Protocol packets from the media terminal adapter, maintaining a timing relationship of the timing critical data and scheduling transmission of the timing critical data and the voice over Internet Protocol packets over the one or more other networks to the one or more client devices.

27. (Original) The apparatus according to claim 26, wherein the video bridge comprises:

a MAC receiver outputting the timing critical data; and

one or more MAC transmitters, one for each of the one or more client devices, each Mac transmitter receiving the timing critical data and converting the timing critical data to a format suitable for transmission over the one or more other networks and having a data port coupled to the media terminal adapter to receive Voice over Internet Protocol packets.

28. (Original) The apparatus according to claim 27, wherein each of the one or more MAC transmitters comprises:

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a PID filter to receive the timing critical data and to filter out programs that are not required by one of the one or more client devices to which said each MAC transmitter is coupled via one of the one or more other networks;

a timing circuit to adjust timing resulting from the filtering and to add additional timing information to adjust for latency and jitter introduced by said one of the one or more other networks;

a packetizer creating packets or frames that meet requirements of said one of the one or more other networks;

a data interface coupled to the media terminal adapter to receive voice over Internet Protocol packets from the processor; and

a scheduler coupled to the packetizer and the data interface to schedule access to said one of the one or more other networks for both the voice over Internet Protocol packets from the media terminal adapter and the timing critical data.